

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
24 July 2003 (24.07.2003)

PCT

(10) International Publication Number
WO 03/059419 A3

(51) International Patent Classification⁷: **A61M 5/142**

(21) International Application Number: **PCT/US02/38905**

(22) International Filing Date: **5 December 2002 (05.12.2002)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:
10/040,908 7 January 2002 (07.01.2002) **US**

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

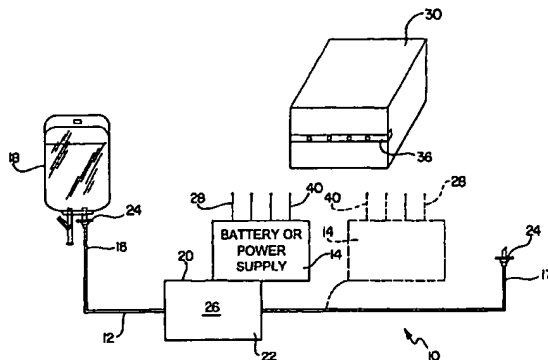
Published:

— with international search report

(88) Date of publication of the international search report:
6 November 2003

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **MEDICAL INFUSION SYSTEM WITH INTEGRATED POWER SUPPLY AND PUMP THEREFOR**



(57) Abstract: A medical infusion system including a lineset used for delivering fluid, such as a liquid medicinal substance, to a patient from a source such as an IV bag (18) through operation of an electric component (30) is disclosed. The preferred infusion system (10) includes disposable tubing (12) having first and second ends (16, 17) attachable to at least a first and second medical component, and a power supply (14), such as a fuel cell, battery, battery pack, power paper, or a combination of the same, attached to the tubing (12) wherein the power supply (14) is configured to be activated to provide electric power to the electric component (30). Such configuration may include the use of an activating member, such as a fluid pump. The preferred power supply (14) is a fuel cell (32) having a reactant source and a barrier (54) separating the reactant source from a reaction chamber (46). The barrier (54) is preferably selected from the group consisting of a frangible membrane, a tear seal, and any combination of the two. Additionally, the fuel cell (or the power supply, generally) may be integral to the tubing (12) of the lineset or may be configured to fit within the fluid pump (30). This allows the activating member to be made integral to the fluid pump (30) such that the insertion of the fuel cell (32) into the pump (30) will defeat the barrier (54) and activate the fuel cell (32) to create power.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/38905

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61M5/142

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 275 213 A (PACESETTER INFUSION LTD) 20 July 1988 (1988-07-20)	1-16
A	column 2, line 41 -column 3, line 59 column 5, line 1-12 column 9, line 18-59; figures 1,2 ---	17,18
X	US 5 984 894 A (MOLLER-JENSEN JENS ET AL) 16 November 1999 (1999-11-16)	1-16
A	column 2, line 7-30 column 3, line 6-42; figures 1-5 ---	17,18
X	WO 85 00523 A (BAXTER TRAVENOL LAB) 14 February 1985 (1985-02-14)	1-16
A	page 2, line 3 -page 3, line 8; figure 1 ---	17,18
A	US 5 840 068 A (CARTLEDGE RICHARD G) 24 November 1998 (1998-11-24)	7,17,18
	column 5, line 23-26 ---	
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

24 April 2003

Date of mailing of the international search report

08.08.03

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/38905

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 538 605 A (GORDON JOHN H ET AL) 23 July 1996 (1996-07-23) the whole document -----	1-18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/38905

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 30-38, 39-46
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☒ Claims Nos.: 47-52
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-18

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-18

Claims 1-18 essentially define a medical infusion system comprising

- 1) a lineset for attachment at one end to a reservoir and at the other end to another component,
- 2) a durable pump component for engaging the lineset and controlling fluid flow therethrough, and
- 3) a power supply affixed to other than the durable pump component, the power supply being capable of operative connection with the durable pump component.

2. Claims: 19-29,53-58

Claims 19-29, 53-58 essentially define a medical lineset comprising

- 1) a tubing having first and second ends attachable to at least a first and second medical component,
- 2) a power supply attached to the tubing, and
- 3) an activating member for the power supply.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Claims Nos.: 30-38, 39-46

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery

From the whole description it is unambiguously clear that the fluid pump to be powered is exclusively a medical infusion pump. When powering a medical infusion pump, a patient is supposed to be implicitly present. No other application, apart from powering a medical infusion pump, has been disclosed in the description.

Continuation of Box I.2

Claims Nos.: 47-52

Although independent claims 1 and 47 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter, i.e. overlap in scope, and to differ from each other only with regard to the definition of the subject-matter for which protection is sought or in respect of the terminology used for the features of that subject-matter.

Drafting two independent claims which overlap in scope results in a lack of clarity as it is not possible to determine which subject-matter could represent the invention for which protection is sought. Therefore, the claims as a whole fail to comply with the requirements of clarity and conciseness (Article 6 and Rule 6.1(a) PCT).

Therefore, a search has only been carried out for the parts of the application which seem to represent the invention for which protection is sought, i.e. claims 1-18. Consequently, no search has been carried out for the remaining claims, i.e. claims 47-52.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 02/38905

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